CLASS SPECIFICATION

TITLE	GRADE	EEO-4	CODE
ADMINISTRATOR I, REGISTERED PROFESSIONAL ENGINEER	**45***	**A**	**6.223**

OPTIONS: A. CONSTRUCTION DIVISION
B. MATERIALS DIVISION
C. ROAD DESIGN DIVISION
D. SAFETY ENGINEERING DIVISION
E. STRUCTURAL DESIGN DIVISION
F. DISTRICTS

Under administrative direction, perform administrative duties and professional engineering work including coordinating, planning, directing and managing activities as an assistant to the Administrator of a large, complex and diverse division or district; or administer multiple sections, programs and/or projects of a large division; or direct the activities of a less complex and diverse division within the Department of Transportation including establishing policies and procedures for the division and contributing to the development of departmental policy.

Administer the operations and oversee the management of the division or sections within the division by organizing, planning and implementing work through delegation and direction of subordinate staff; developing and implementing division or section policies and procedures; implementing State and departmental policies, procedures, and laws; and determining budgetary needs and preparing the annual budget.

Exercise executive control and final action over engineering projects; perform professional engineering functions; study proposed engineering projects; apply advanced engineering principles and abstract concepts; decide upon course of action based on engineering criteria which solve difficult problems and may impact the development of new policies, procedures and organizational areas of service.

Work with executives, officials and regulatory representatives to negotiate solutions to major or controversial issues within policy guidelines.

Represent the department at hearings, meetings, conferences and committees with other entities and/or the public to explain department policies and projects, and to answer questions and provide information; provide expert testimony in court related to division operations, policies and procedures; represent the division at staff meetings; participate in various committees and associations for the purpose of formulating policy, evaluating products and processes, and planning and sharing information.

Perform related duties as assigned.

OPTION A - Construction Division: Oversee the management and administration of project contracts by reviewing all project correspondence, contract change orders, critical path method schedules, and value engineering proposals to ensure conformance with all specifications, plans, policies and procedures and to determine cost savings; initiating and signing prior approvals for contract change order work; conducting preconstruction conferences; assigning engineers to construction projects based on department's work program; assigning office staff to ensure contractor and consultant payments, documentation requirements and all other construction related items are performed in accordance with established guidelines; reviewing and approving projects; and determining liquidated damages for material, traffic control deficiencies, time overruns or any other items not complying with project specifications.

*** Reflects a 2-grade, special salary adjustment authorized by the 2001 Legislature to improve recruitment and retention.**

OPTION A - Construction Division (cont-d)
Receive, review and evaluate contractor claims by meeting with contractors to resolve claims through discussion, records review and negotiations; preparing and presenting unresolved claims disputes to Claims Review Board; developing the department's defense by evaluating all records, documents and events relevant to the claim, and preparing charts and other information to ensure the department's position is presented in a clear and accurate manner.

OPTION B - Materials Division: Administer the operational branches of the division by planning, organizing, directing and controlling daily operations to achieve established goals and objectives; reviewing and authorizing changes to highway contracts that are related to materials; reviewing field construction practices to resolve materials/engineering problems and ensure quality management; representing the division at preconstruction conferences to review contract plans and specifications in order to interpret materials-related designs and specifications; formulating and recommending divisional policies and procedures; providing administrative level decisions on material-related issues; reviewing and recommending approval of highway structural component designs; ensuring compliance of all material related designs, material properties, specifications and quality assurance test procedures with Federal Highway Administration requirements; and ensuring all materials incorporated into contract highway construction projects meet the minimum requirements as specified in the contract plans and specifications.

OPTION C - Road Design Division: Administer design planning including assignment and supervision of projects assigned to the division; certify that road projects are designed to the latest standards of the department, the Federal Highway Administration, and county and city entities; coordinate the activities and priorities of the division with those of other department divisions to ensure projects are on schedule and meet anticipated costs; review projects and recommend hiring private engineering consultants as needed; and write and review legal agreements between the department and consulting engineers, government agencies, individuals, land developers, and corporations, ensuring complete understanding between the parties of the agreement.

Perform engineering functions to include directing the preparation of roadway construction plans, displays, estimates and other related work; preparing cost estimates for department road contracts; writing and recommending approval of change orders to existing roadway contracts when conditions in the field change, errors are made in the original plans, or the scope of work is modified or changed; preparing detailed economic analysis of design alternatives; and examining plan specifications and estimates to determine directions in the design process.

Traffic engineering: administer the planning, assignment and supervision of work assigned to the traffic engineering section of the road design division; initiate traffic engineering recommendations on major roadway design projects; provide traffic engineering analysis of State controlled highways to evaluate the need for traffic control devices including traffic signals, stop signs, traffic movement restrictions and other devices that warn, regulate and guide the driving public; establish speed limits on State highways based on results and recommendations from engineering studies; review traffic impact reports for development as required by State regulations; and investigate, resolve and answer requests and complaints from the general public.

OPTION D - Safety Engineering Division: Direct the Highway Safety Improvement Program by prioritizing and approving safety projects based upon engineering analysis performed by subordinates; authorizing the allocation of federal funding to identify and provide surveillance of high accident locations, traffic engineering services, highway related aspects of pedestrian safety, and grants to local agencies, institutions and individuals for training and education; and reviewing recommendations and determining projects to be selected for implementation under the Guardrail Replacement Program and Fence Project Program.

Initiate and develop, in cooperation with other agencies, statewide traffic safety awareness programs by assessing needs, priorities and problems affecting the traveling public and making determinations on how best to address these needs; organizing and scheduling conferences and seminars for professionals in safety engineering and related fields; organizing presentations and speaking at various safety conferences and forums; and advising, assisting and cooperating with the department's legal division by providing requested information, interpreting technical data, and acting as an expert witness for the department in safety related litigation.

OPTION E - Structural Design Division: Administer the Federal Highway Bridge Replacement and Rehabilitation Program in Nevada; oversee bridge projects including the design of bridges, sign supports, retaining walls and maintenance facilities; establish design policies and procedures; review and approve final estimates and plans; and certify that the plans have been designed in compliance with codes, policies and procedures.

Oversee the development of standard plans, standard specifications, and policies and procedures to be incorporated into the Bridge Manual; recommend revisions to standard specifications due to changing codes and technologies; coordinate with other divisions to review and revise standard specifications when problems arise; and coordinate the development or revision of policies and procedures used within the division.

Review and approve bridge encroachment permits and sign encroachment permits dealing with bridges to ensure that the encroachment will not adversely affect the structure and will keep the structure maintainable.

Identify the need for consultant services; interview, select and negotiate for consultant services and write contract agreements.

Oversee research functions in the area of bridge design, construction, materials and maintenance; make recommendations regarding the use of and/or need for new products; identify potential items to be researched; assign research work to a bridge design squad; and review recommendations and develop a design policy based on the research findings.

OPTION F - Districts: Administer the district's work program; monitor expenditures to ensure compliance with approved budget; set priorities for placement of labor and equipment; make judgments as to types of materials to be used for specific conditions; review various management system outputs to ensure compliance; ensure contracts are built in conformance with plans and specifications; and service sections to provide proper support to maintenance and construction programs.

Develop the annual work program for presentation to the district administration by reviewing the Pavement Management System to determine required and cost effective projects.

Conduct inspections of highway facilities in conjunction with headquarters engineers or with subordinate supervisors to determine appropriate strategies for preventive maintenance, overlays, reconstruction, structures, or safety appurtenances; develop contracts and agreements with local firms for products and services as necessary by establishing specifications, quantities and locations for contracted materials for future betterment programs.

Administer, direct and manage district maintenance, equipment shops, equipment stores, and communications by establishing district maintenance policies and goals, monitoring work performed, and ensuring conformance to State, department and district policies and procedures; reviewing and developing general priority guidelines for the repair of equipment; monitoring and directing the communications function for the district by reviewing work, monitoring annual preventive maintenance schedule on repeater sites, reviewing inventories of radios and priorities for installations; reviewing, monitoring and approving annual budgets and directing emergency repair of radios and telephone equipment; and monitoring and reviewing the operations of the district stockroom to ensure compliance with State purchasing regulations. Review and approve all highway maintenance encroachment permits issued by the district; perform field reviews and recommend changes to bring plans into compliance with standards; conduct meetings with consultants to review plans and recommend changes and deletions to bring permits to an acceptable approval level.

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MINIMUM QUALIFICATIONS

SPECIAL NOTES AND REQUIREMENTS:

* Registration as a Professional Engineer in Nevada is required at the time of appointment. Any person registered as a Professional Engineer in another state must become registered as a Professional Engineer in Nevada within six months following the date of appointment as a condition of employment.

EDUCATION AND EXPERIENCE: Two years of experience comparable to a Manager I, Registered Professional Engineer or Supervisor IV, Registered Professional Engineer; **OR** an equivalent combination of education and experience. *(See Special Notes and Requirements)*

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES (required at time of application):

ALL OPTIONS
Detailed knowledge of: civil engineering terminology. **Working knowledge of:** the State Administrative Manual Rules for State Personnel Administration, department affirmative action plan and the supervisor's guide to prohibitions, penalties and the grievance procedures; rules for personnel administration; personnel management and related department policies and procedures. **Knowledge of:** engineering principles, engineering nomenclature and construction methods; federal affirmative action and equal employment opportunity laws and regulations applicable to public institutions sufficient to analyze personnel policies and procedures; principles of organization and management in an engineering environment. **Skill in:** financial and technical analysis. **Ability to:** manage people and resources including developing plans and making decisions; deliver oral presentations; deal with individuals and the public with tact, insight and diplomacy; write concise reports, memos, and directives including analytical reports; work independently and follow through on assignments with minimal direction; adapt to frequent changes; exchange ideas, information and opinions with others to formulate policies and programs and/or arrive jointly at decisions, conclusions or solutions; analyze problems, situations, or procedures to define the problem or objective and identify relevant concerns or responsibilities; foresee consequences of decisions; read and comprehend technical reports to keep abreast of the latest management/engineering theory or application and develop new policy if warranted; read and write legal documents and engineering texts; discuss a variety of engineering related topics on short or no notice with the public or management; make decisions based on technical information, department policies and goals which may involve expenditures of millions of dollars and involve the public safety.

OPTION B - MATERIALS DIVISION
Detailed knowledge of: the functions of all divisions and districts in order to exchange information, maintain cooperative working relationships, and coordinate activities necessary to complete projects; highway materials and their engineering properties; principles and practices of civil engineering relating to materials, testing, and construction of highways and bridge structures. **Working knowledge of:** contract plans, Special Provision, Construction Manual, Standard Specifications for Road and Bridge Construction and other design codes.

OPTION C - ROAD DESIGN DIVISION:
Working knowledge of: policies and practices for geometric design and traffic control devices design including signs, pavement markings, traffic signals and street lighting; relationships between land use and its effect on traffic operations; highway capacity analysis procedures. **General knowledge of:** traffic engineering principles used in the analysis and management of vehicular and pedestrian traffic flow. **Knowledge of:** economic principles of engineering. **Skill in:** performing particular phases of engineering work such as highway capacity calculations or geometric designs of roadways. **Ability to:** apply highway capacity analysis procedures to analyze traffic flow problems; perform mathematical analyses for various types of traffic engineering evaluations; conduct studies and analyze special situations such as bicycle facilities, mass transit facilities, pedestrian facilities, railroad crossings, speed zoning, interfacing with other transportation modes and freeway operations.

OPTION D - SAFETY ENGINEERING DIVISION
Ability to: analyze complex technical data such as traffic accident analyses, engineering studies and economic analyses for safety improvements and methods.

MINIMUM QUALIFICATIONS (cont-d)

ENTRY LEVEL KNOWLEDGE, SKILLS AND ABILITIES (cont-d)

OPTION E - STRUCTURAL DESIGN DIVISION
Working knowledge of: manuals, policies, procedures and guidelines used by the division drafting details, symbols, and terminology; methods of construction related to structures. **General knowledge of:** chemistry as it relates to engineering materials and metallurgy.

OPTION F B DISTRICTS
Knowledge of: procedures and practices used in the design, construction and maintenance of highways and related structures. **Skill in:** making involved computations in designing projects. **Ability to:** supervise and inspect the work of contractors and their employees; design and modify complex traffic control plans in accordance with the Federal Highway Administration Manual on Uniform Traffic Control Devices and supporting documents; read and comprehend technical information, manuals and legal documents as they pertain to highway engineering; solve complex engineering problems in maintenance of roadways; interpret civil engineering drawings and specifications pertaining to highway construction; modify and/or adapt engineering designs, procedures or methods to accommodate the department's and contractor's needs; determine the most efficient and economical materials for use in maintenance and construction projects.

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES (typically acquired on the job):

ALL OPTIONS
Working knowledge of: communication techniques used to provide information to the general public. **Knowledge of:** organizational structure of the department and sources of information; budgetary procedures used by the department and division. **Skill in:** resolving problems in a fair, equitable, and acceptable manner; achieving the maximum potential of an employee while maintaining a high level of morale. **Skill to:** inform, educate and enlighten the participating audience. **Ability to:** quickly make sound decisions on complex and diverse issues; meet divisional goals when unanticipated budget restraints occur; interpret and enforce divisional personnel policies and rules; recommend or set priorities that will effectively meet goals set by management; judge what information should be passed on to different levels of management; speak on a one-to-one basis using appropriate vocabulary and grammar to obtain or give information and to explain policies and procedures; discuss a variety of job related topics on short or no notice; motivate others and stimulate people to effective action; establish and maintain cooperative working relationships with other divisions and governmental agencies; supervise the division's personnel including organizing work flow to accomplish established objectives, delegate responsibilities, provide training, evaluating subordinate effectiveness, and administering necessary discipline; perform effectively under conditions of fluctuating workload; set priorities which accurately reflect the relative importance of job responsibilities; prioritize assignments to complete work in a timely manner when there are changes in workload, changes in assignments, pressures of government regulations and directives as they apply to job procedures.

OPTION A - CONSTRUCTION DIVISION:
Working knowledge of: plans and special provisions in designated relations; current principles and practices of engineering related to highway construction; manuals, policies, procedures and guidelines used by the division; safety precautions necessary to protect the traveling public, department and contract personnel when working in or about roadway work zones. **General knowledge of:** construction related laws; materials and tests performed on materials utilized in highway projects; design criteria used in preparation of plans and special provisions; the pay estimate system. **Ability to:** read, write and understand intent of plans, special provisions and specifications; analyze critical path method schedules; construct as-built critical path methods based on actual production and construction rates; administer and direct the work of engineers, sub-professional employees and contractors; perceive and define cause and effect relationships in construction delays and claims.

OPTION B - MATERIALS DIVISION:
Working knowledge of: testing equipment and procedures used in the division. **Ability to:** determine the effect on material performance due to non-specification material.

MINIMUM QUALIFICATIONS (cont-d)

FULL PERFORMANCE KNOWLEDGE, SKILLS AND ABILITIES (cont-d)

OPTION C - ROAD DESIGN DIVISION:
Working knowledge of: manuals, policies, procedures and guidelines used by the division. **General knowledge of:** federal, State and local environmental laws related to roadway design and construction; the Nevada Revised Statutes relating to highways and roads. **Ability to:** modify or adapt standard design procedures to fit unusual circumstances while maintaining economic constraints, safety, and schedules.

OPTION D - SAFETY ENGINEERING DIVISION:
Working knowledge of: appropriate safety countermeasures, safety guidelines and federal and department policies and procedures relating to highway safety improvements and hazard elimination. **Knowledge of:** federal regulations regarding administration of Hazard Elimination Program, Railroad Crossing Safety Program and other federal-aid safety programs. **Ability to:** analyze complex technical data such as traffic accident analyses, engineering studies and economic analyses for safety improvements and methods; write concise, logical, grammatically correct reports to define and illustrate safety engineering procedures, developments and methods; write technical reports on safety engineering suitable for publication in a professional journal or technical guidelines manual; plan and prepare division budget and administer the funding of the federal-aid safety engineering programs.

OPTION E - STRUCTURAL DESIGN DIVISION:
General knowledge of: departmental policies and procedures manual, Roadway Design Manual, and Construction Manual; the Federal Highway Administration's federal-aid highway program manual. **Ability to:** ensure projects are completed on schedule and within allotted resources; determine when a design standard needs to be established or updated; make sound decisions on business and technical matters impacting the safety and cost of the transportation system; ensure structural design calculations are developed in a logical and systematic order, conforming to [the] applicable codes, policies and procedures; interpret and identify how codes are developed in relation to structural design; inspect construction projects and ensure that work completed and in progress meets the requirements of the plans and specifications; inspect existing structures to determine the extent of deterioration, repair strategies, and maintenance; compare, rate, select and negotiate consultant services based on written proposals, presentations, and personal interviews.

OPTION F - DISTRICTS: Working knowledge of: current principles and practices of civil engineering related to highway and bridge construction; general traffic engineering principles; equipment specifications. **General knowledge of:** equipment repair techniques. **Knowledge of:** federal and State requirements and programs for training personnel in the recognition and handling of hazardous materials; appropriate use of various herbicides and insecticides to control weeds within highway right of way; federal and State environmental guidelines, policies and procedures pertaining to maintenance and construction projects. **Ability to:** direct and instruct employees on proper repair techniques; systematically arrange construction materials, equipment and labor into groups or categories according to established criteria.

This class specification is used for classification, recruitment and examination purposes. It is not to be considered a substitute for work performance standards for positions assigned to this class.

6.223

ESTABLISHED:	7/1/93P
	8/31/92PC
REVISED:	7/1/93P
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REVISED:	11/17/93UC
REVISED:	6/29/95UC
REVISED:	1/27/97R
	3/23/99UC
REVISED:	7/1/01LG